

EPA PROJECT II

Ecology and Environment, Inc.

MEMORANDUM

TO: Charles Gazda, Chief
EPA Compliance Section

FROM: Imre Sekelyhidi, FIT *IS*
E & E Region VI

THRU: K. H. Malone, Jr., FITL *KH*
E & E Region VI

DATE: January 30, 1981

RE: TDD # F-6-8101-37

SUBJECT: Observation and Documentation of Off-Site Clean-Up at the Old
Olin Corporation Plant Site, Houston, TX

*OWN CORP - 3 P OAKVILLE
TXD000607028
X-Ref St Vol 1*

In accordance with TDD, E & E FIT member contacted Mr. Daniel W. Bridge, Project Manager of Rollins Environmental Services, Inc., Deer Park, TX, to make arrangement for observation of the subject clean-up operation scheduled for January 20, 1981.

On the morning of January 20 FIT representative surveyed visually the site of clean-up operation and photographed pre-cleanup site conditions (see photographs # 1 thru 5). Due to heavy rain the day and night before, clean-up was postponed to 1:00 p.m.

During the remaining part of the morning FIT member visited the Rollins facility in Deer Park, TX, and obtained information relating to Rollins previous activities at the Old Olin Site subsequent to January 14, 1981.

On the afternoon of January 20, 1981, Rollins Environmental Services started removed the four waste piles down to the surface, as directed by Mr. Dennis Guild of EPA Region VI, Enforcement Division (see photographs # 6 and 7). In addition to FIT members, the following were present.

Daniel W. Bridge, Project Manager, Rollins, E.S., Inc., Deer Park, TX
J. E. Martin, Chief Engineer, Houston Belt & Terminal Ry Company, Houston, TX
Edward L. Hillier, Manager, Rollins E.S., Inc., Deer Park, TX
Clarence Johnson, Field Representative, TDWR, Deer Park, TX
A team of four laborers, led by Richard N. Winders, Field Operations Superintendent of Rollins E.S., Inc.

The character of the materials on the site is illustrated on photographs # 9 thru # 13. See comments at photos for interpretation of the substances present. Clean-up of the surface deposits was completed by 4:00 p.m. (see photographs #14 and 15).



196585

TO: Charles Gazda
FROM: Imre Sekelyhidi
DATE: January 30, 1981

Page Two

In the course of surveying the site, materials having the same chlorinated odor were found on the west side of the Southern Pacific trailer lot (see photograph # 16 for location), scattered sulfur granules were on the open ground (photograph # 18), and materials found at about 6" below surface exhibited similar characteristics (see photographs # 19 and 20) to those at the site.

Rollins personnel collected several samples from the waste piles and from below surface materials, and a water sample at the southwest side of the Old Olin Plant (see photograph # 22 for well). The total number of samples collected by Rollins was 14, (see attachment # 4 for Rollins' sketch and description of sample locations).

On January 21, 1981 FIT member visited the U.S. Geological Survey Subdistrict Office, 2320 La Branch, Houston, TX, to obtain the latest available information on the geology and groundwater conditions of the area in the vicinity of the site. Mr. Robert K. Gabrysch, Acting Subdistrict Chief was consulted and USGS files were reviewed.

Upon return site history was reviewed and geological and hydrologic conditions were analyzed (see "Background Analysis").

Based on available information a "Maximum Sampling Plan" was developed and modified with EPA Region VI S & A and Enforcement Division input (see attachment # 1, "Sampling Plan").

Rollins E.S., Inc. sent four of their samples to NUS Laboratories, Clear Lake, TX, as of January 30, 1981 results of the analyses were not available (Rollins expects the results by February 3, 1981).

In summary, the clean-up operations were performed as directed and further investigation appears to be warranted.

/st
attchs.

BACKGROUND EVALUATION

Site History

(Source: Mr. Jim Brown, Environmental Coordinator, Olin)

The Old Olin Plant Site, Houston, TX, was purchased from the Southern Acid and Sulfur Company in 1938. Plant was used for a time to manufacture ammonium sulfate fertilizer, and the southwest 1/4 of the site was used as a test plot for growing various crops. On or about 1950, the plant was converted to a formulation plant for cotton pesticides, and this type operation continued until 1970. During this period, the following pesticides are known to have been formulated:

- (1) Dieldrin
- (2) Aldrin
- (3) Benzene hexachloride (alpha, beta, gamma isomers-lindane)
- (4) Heptachlor
- (5) Sevin
- (6) Malathion
- (7) Parathion
- (8) DDT
- (9) Toxaphene

The plant employed, on an average, thirty people and was closed in 1970. Factors that figured in the decision to close the plant were the increasing difficulties in meeting environmental standards and the age (obsolescence) of the facility.

When the plant closed most of the people were transferred to the Olin Plant in Pasadena, TX now known as Pasadena Chemical Company. Two individuals who worked at the Old Olin Plant and may be contacted are Mr. Harold Harding (Pasadena Chemical Co.) and Mr. A. M. "Max" Watkins (Olin plant, North Little Rock, AR). Olin presently operates a facility similar to these plants at Leland, MS.

During the 1972 clean-up of the Old Olin Site, at least two truckloads of material, assumed to be contaminated, were shipped to the Pasadena Site and buried under deposits of waste material, arising from phosphoric acid manufacture. This material and its location, is included in the Eckhardt List.

(Source: Mr. Chuck Chalker - Mustang Industrial Equipment Co., Property Manager (713)460-2000, Eureka Investment Company)

The Olin Plant Site was purchased on or about 1972 and was subsequently extensively modified. Buildings were demolished, irrigation pipe removed, the railroad spur eliminated and fill added to raise the level of the entire site 6 to 8 inches.

The demolition and hauling operations were carried out by Olshan Wrecking Company of Houston, Texas. The soil was treated with lime to stabilize it to standard highway department specifications.

After treatment operations were completed, Mustang Industrial Equipment Company constructed its facility on the southwest corner of the site. Five years later, in 1977, the Southern Pacific Transportation Company purchased the eastern half of the site, and also an access corridor to Exchange St., approximately nine acres. The northwest corner of the site (3-1/2 acres) is leased to Seatrain Pacific Service, a containerized freight shipping firm.

Geology

The Old Olin Plant is located along an outcrop of the Beaumont Formation, a Pleistocene sequence of clay, silt, and sand. It consists of interfingering stream channel, point bar, natural levee and backswamp deposits and to a lesser extent coastal marsh and mud-flat deposits.

Due to this complex stratigraphy, established wells in the area (shown on attachment 2) are situated in single sand bodies at depths greater than 200 feet. These sand bodies have thicknesses varying from 14 feet to 54 feet and are often overlain by impervious shales.

Therefore, the representative nature of these wells would be highly questionable. The possibility of groundwater communication between the site and any of those isolated sand bodies is a question only localized studies can answer.

Hydrology - Surface Water.

The topography of the area was reviewed and estimates of runoff made using conventional methods.

Tributary area boundaries were established by considering the containing effects of the Englewood Railyards northwest of the site, the railroad tracks and track levee east of the site, and natural flow patterns, based upon topography, southwest of the site. Runoff coefficients were determined by averaging coefficients selected from different sources. Runoff estimates were made of the outlined area for two receiving points by using the rational formula for estimating peak runoff rates.

With a rainfall intensity of 3 inches per hour a runoff of approximately 20 cubic feet per second (cfs) is expected to enter point "1" of the receiving ditch and an approximate flow of 60 cfs to enter point "2" (see attachment 3). These figures are likely to be high because intercepting storm sewers are used in the residential section north of the site.

Hydrology - Groundwater.

The general groundwater flow direction is to the southeast, south and southwest. Several years ago the direction was southeasterly. but due to heavy groundwater development, it is changing more to the south and southwest.

It is recommended that shallow observation wells (less than 20 feet in depth) be located and/or installed within a 1/2 mile radius of the site to determine the groundwater characteristics of this area.

SAMPLING PLAN (SAMPLES TO BE TAKEN)

OLIN PLANT SITE
HOUSTON, TX

FIT, REGION VI

JAN 29, 1981

SAMPLE LOCATION			TYPE OF SAMPLE								
No.	SYMBOL (ON SITE SKETCH)	DESCRIPTION	WATER		SOIL						
			SURFACE	GROUND	SURFACE	6"	12"	18"	24"	36"	?"
		NUMBER OF SAMPLES 30 <u>ON-SITE</u>	3	2	5/3	3	2	2	5	1	4
1.	⊙	I. QUADRANT - ALONG W. FENCE ~ 150' S. OF N. FENCE			▲	●			▲		▲
2.	⊙	II. QUADRANT - LOCATION TO BE DETERMINED ON FIELD							▲		▲
3.	⊙	III. QUADRANT - LOCATION TO BE DETERMINED ON FIELD							▲		▲
4.	⊙	IV. QUADRANT - LOCATION TO BE DETERMINED ON FIELD							▲		▲
		<u>OFF-SITE</u> - DITCHES E. OF SITE									
5.	⊙	W. DITCH - N.E. CORNER (E. OF SITE)			▲	●			▲		
6.	⊙	W. DITCH - 100' S. OF N.E. CORNER (E. OF SITE)				▲	○			▲	
7.	⊗	W. DITCH - 200' S. OF N.E. CORNER (E. OF SITE)		▲ (SOIL WATER)	▲	○			▲		
8.	⊙	W. DITCH - 500' S. OF N.E. CORNER (E. OF SITE)			▲	○			▲		
		- SOUTH DITCH									
9.	⊗	W. DITCH - 1000' S. OF N.E. CORNER (E. OF SITE) (@ WALLISVILLE RD) IN SOUTH DITCH	▲	⊗	▲ (SEDIMENT)	●					
10.	⊙	S. DITCH - S.E. CORNER OF WALLISVILLE AND EXCHANGE ROADS (SW OF SITE)				▲	○	▲			
		- GROUND WATER									
11.	●	WELL AT CHURCH, W. OF SITE		▲	⊗						
		<u>CONTROLS</u> - UPSTREAM/UPGRADIENT									
12.	⊙	W. DITCH - 100' N. OF N.E. CORNER (E. OF SITE)			▲	○		▲			
13.	⊙	WASH N. OF FENCE, 100' W. OF N.E. CORNER				▲	●				
		- E. SIDE, PAST "BARRIER"									
14.	⊗	E. DITCH - 100' S. OF N.E. CORNER (E. OF SITE)	▲	⊗	▲ (SEDIMENT)	●					
		- DOWNSTREAM/RECEIVING WATER									
15.	⊗	W. DITCH - 5000' S. OF (E. OF SITE) N.E. CORNER	▲	⊗	▲ (SEDIMENT)	●					

⊗ SUBMIT TO CONTRACT LAB (COMPLETE ANALYSES)

● SUBMIT TO EPA LAB (PESTICIDES)

⊙ SUBMIT ONE TO EPA LAB - HOLD ONE FOR FUTURE ANALYSIS

○ HOLD FOR FUTURE ANALYSIS

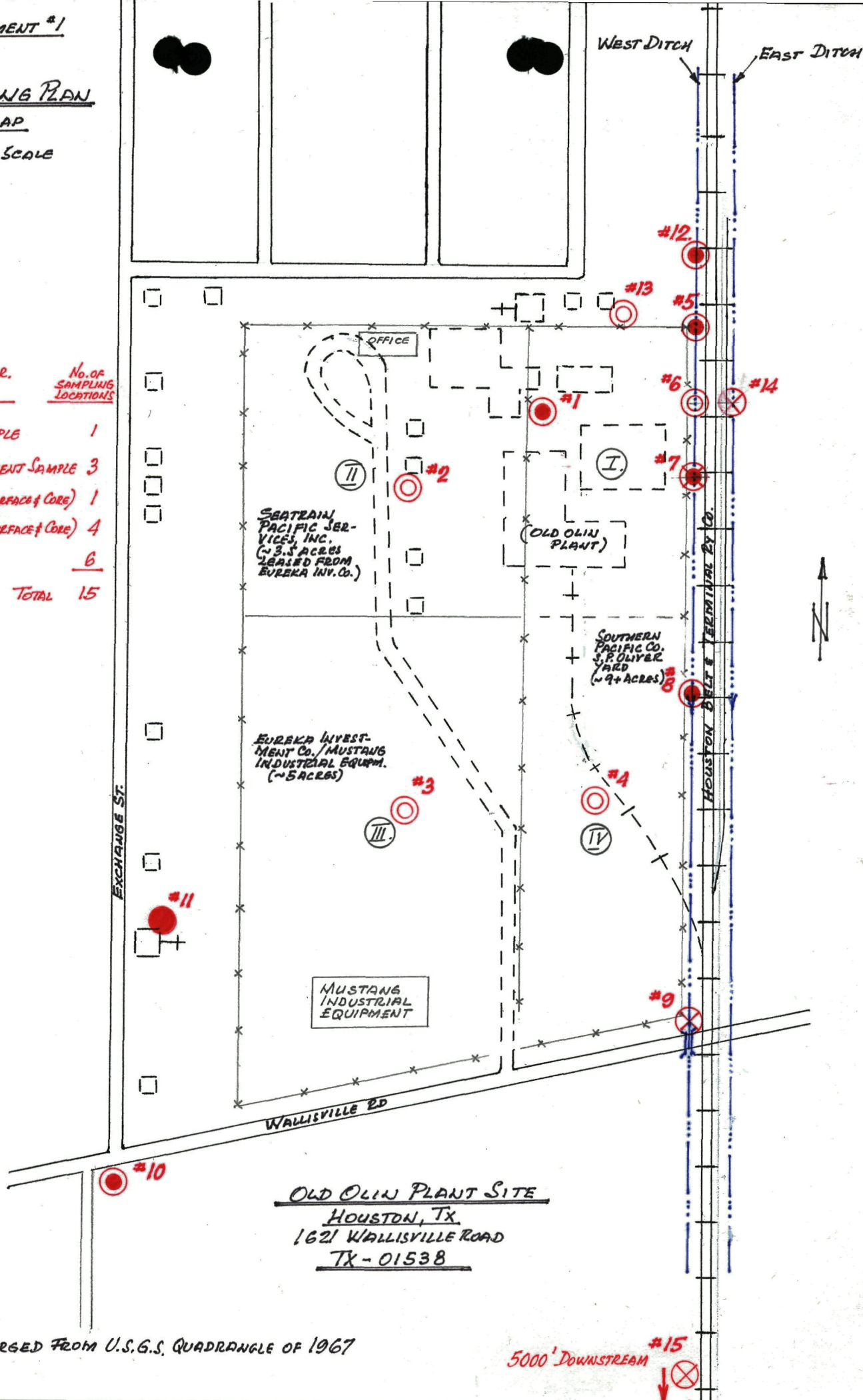
SAMPLING PLAN

SITE MAP

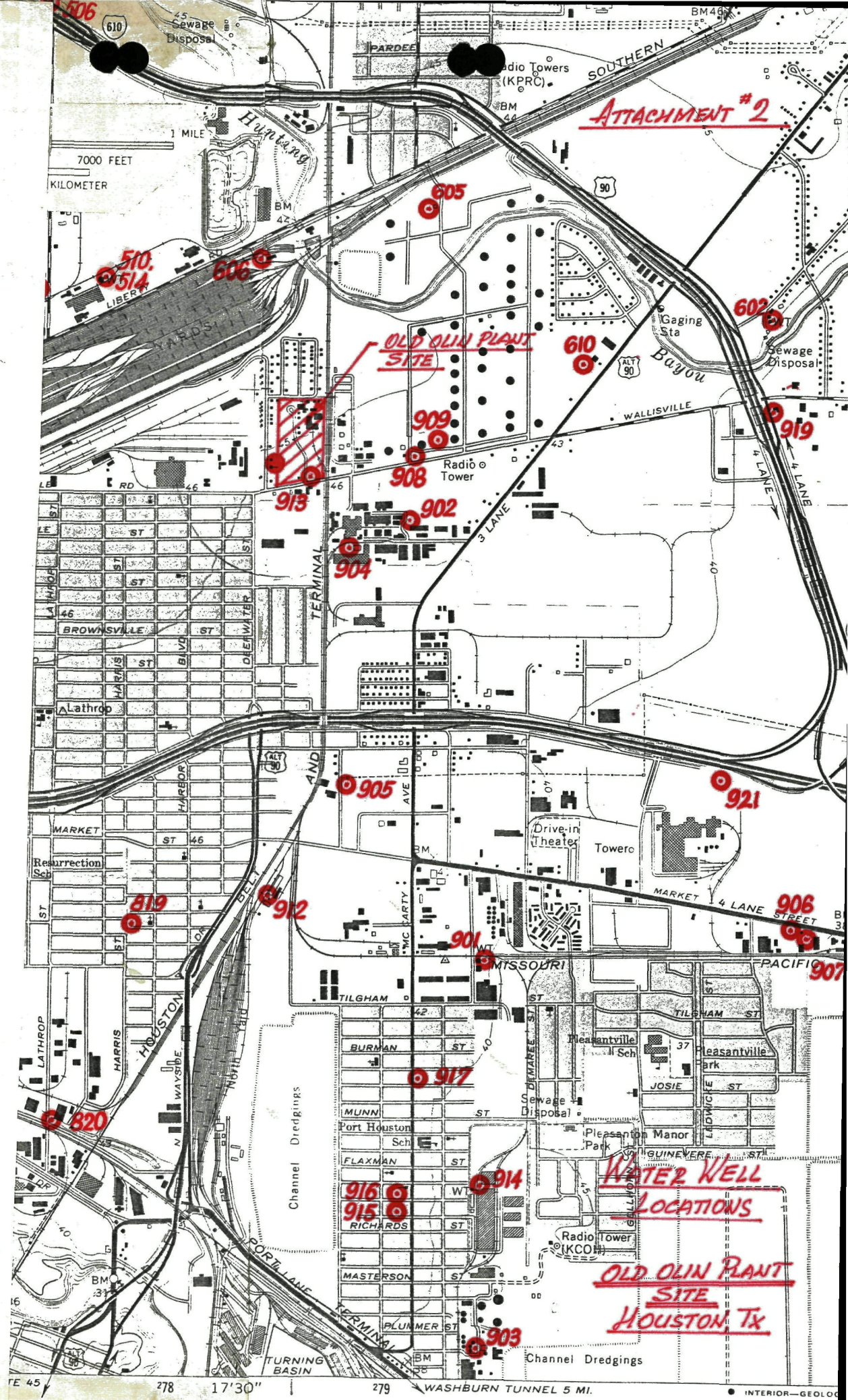
APPROXIMATE SCALE
1:2400

LEGEND:

SYMBOLS - DESCR.	NO. OF SAMPLING LOCATIONS
● WATER SAMPLE	1
⊗ WATER & SEDIMENT SAMPLE	3
⊙ WATER & SOIL (SURFACE & CORE)	1
⊙ SOIL SAMPLE (SURFACE & CORE)	4
⊙ SOIL (CORE)	6
TOTAL	15

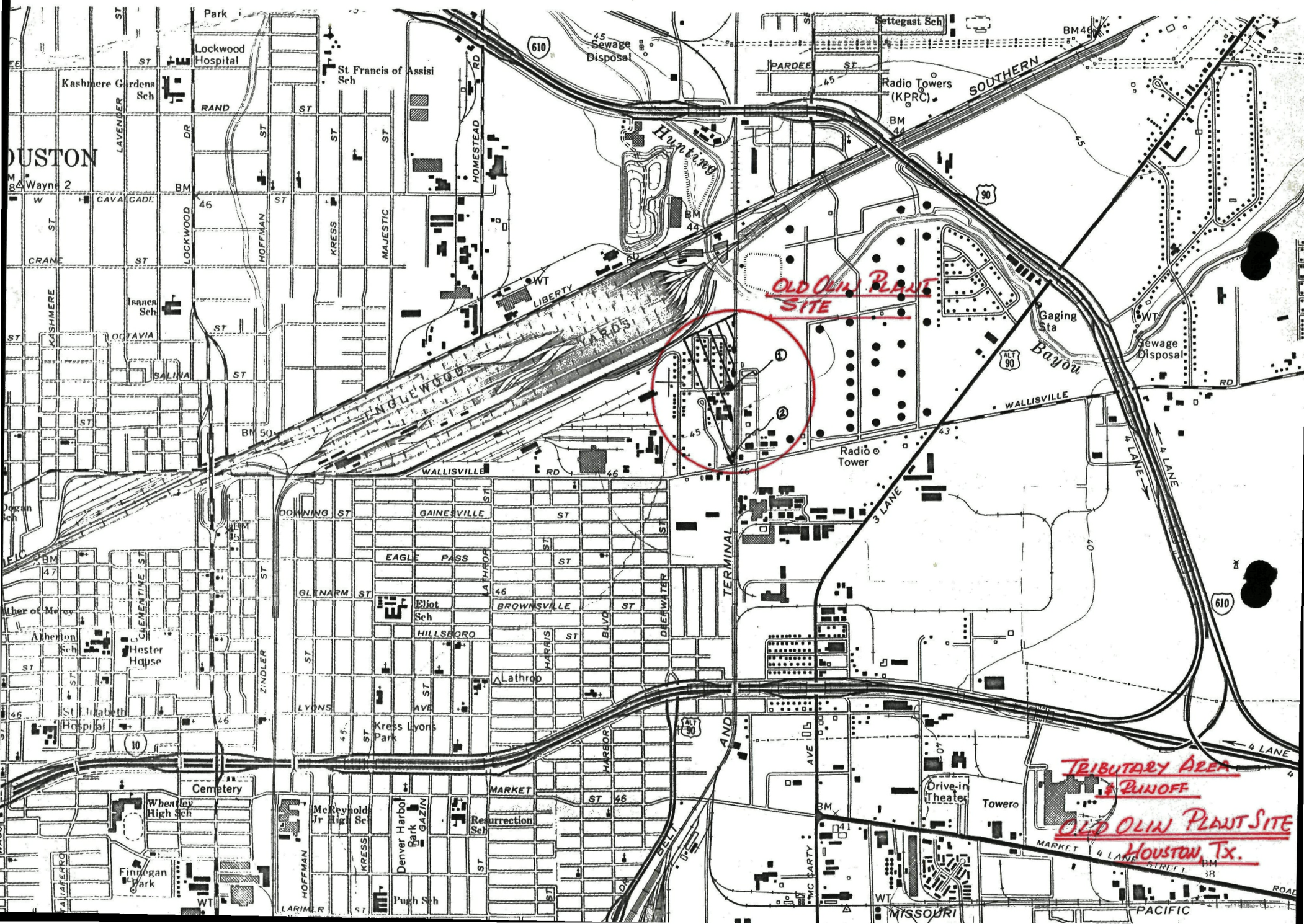


ATTACHMENT #2



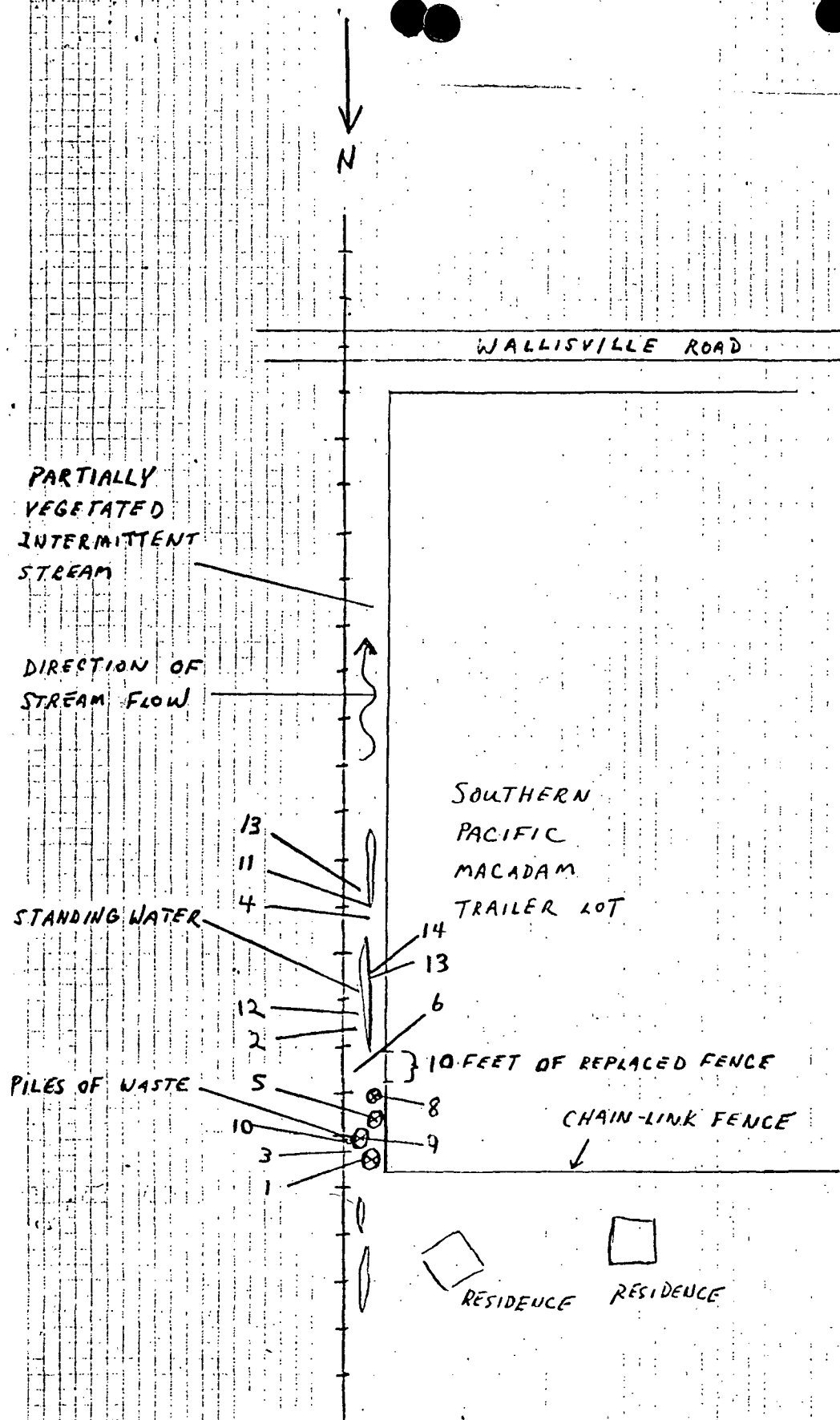
WATER WELL LOCATIONS

OLD OLIN PLANT SITE
HOUSTON TX



DESCRIPTIONS OF SAMPLES COLLECTED
AT WALLISVILLE ROAD SITE

1. Waste pile material.
2. Water at 2' depth 118' south of waste piles.
3. Sludge 2' deep near waste piles.
4. Soil at 284' south of waste piles.
5. Waste pile material.
6. "Beads" on surface 35' south of waste piles.
7. Well water from Church well along Wayside Drive.
8. Waste pile material.
9. Waste pile material.
10. Soil at 2' deep near waste piles.
11. Soil at surface 284' south of waste piles.
12. Soil at surface 108' south of waste piles.
13. Soil at surface 171' south of waste piles.
14. Soil at 2' deep 171' south of waste piles.

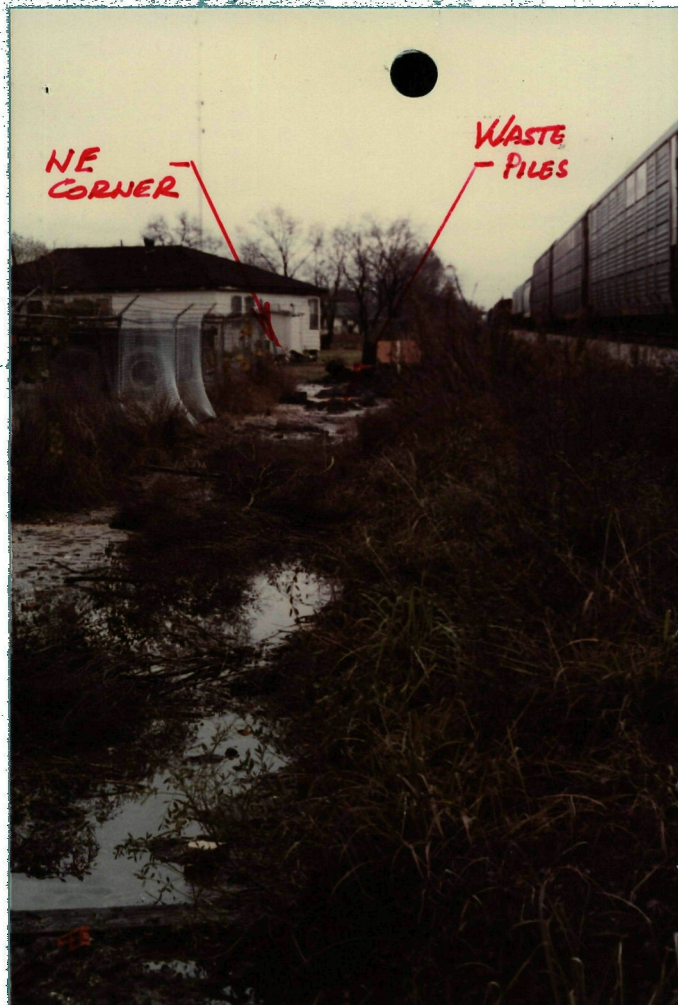


SAMPLES SENT FOR ANALYSIS:

- #1 - WASTE PILE MATERIAL
- #2 - WATER AT 2' DEPTH
- #3 - SOIL AT 2' DEPTH
- #4 - SURFACE SOIL 284' SOUTH OF WASTE PILES

NOTE: #7 SAMPLE IS WATER FROM A WELL ABOUT 2500' WEST OF WASTE PILES.

THIS IS A ROUGH MAP. THE SCALE IS NOT EXACT, BUT APPROXIMATELY ONE INCH EQUALS 200 FEET. THE NUMBERS REPRESENT SAMPLE LOCATIONS. FOR SAMPLE DESCRIPTIONS, SEE ATTACHED LISTING.



Photographer / Witness

IMRE SEKELYHIDI

Date / Time / Direction

1/20/81 / 8:00 AM / NORTH

①

Comments: WEST R.R. DITCH, N.E.

CORNER OF SITE. NOTE

APPARENTLY NEW SECTIONS OF
FENCE

Photographer / Witness

IMRE SEKELYHIDI

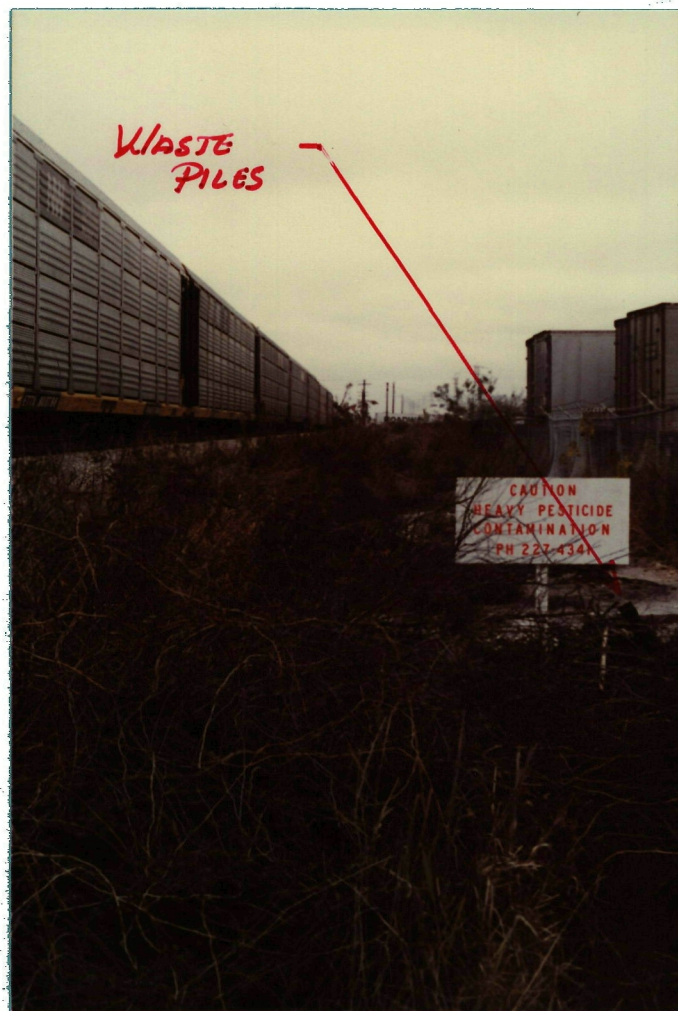
Date / Time / Direction

1/20/81 / 8:00 AM / SOUTH

②

Comments: WEST R.R. DITCH

AND WASTE PILES



Photographer / Witness

Date / Time / Direction

Comments: _____



pg. 2

Photographer / Witness

IMRE SEKELYHIDI

Date / Time / Direction

1/20/81 / 8:15 AM / DOWNWARD

(3)

Comments: CLOSE-UP OF ONE

OF THE WASTE PILES



Photographer / Witness

IMRE SEKELYHIDI

Date / Time / Direction

1/20/81 / 8:15 AM / DOWNWARD

(4)

Comments: CLOSE-UP OF MATERIALS

AROUND WASTE PILES



Photographer / Witness

IMRE SEKELYHIDI

Date / Time / Direction

1/20/81 / 8:15 AM / DOWNWARD

(5)

Comments: CLOSE-UP OF HOLE

IN VICINITY OF WASTE PILES



Photographer / Witness

/MRE SEKELYHIDI

Date / Time / Direction

1/20/81 / 1:20 PM / WEST

Comments: SET-UP OF ROLLINS
ENVIRONMENTAL SERVICES, INC.
FOR CLEAN-UP

⑥

pg. 3



Photographer / Witness

/MRE SEKELYHIDI

Date / Time / Direction

1/20/81 / 1:35 PM / SOUTH

Comments: CLEAN-UP OF WASTE
PILES (LABORERS WEARING
FACE MASKS)

⑦

Photographer / Witness

Date / Time / Direction

Comments:

⑧



Photographer / Witness

/MRE SEKELYHIDI

Date / Time / Direction

1/20/81 / 1:45 PM / DOWNWARD

Comments: CLOSE UP OF DISTURBED

SURFACE - NOTE WAXY

APPEARANCE.

pt. 4

(9)



Photographer / Witness

/MRE SEKELYHIDI

Date / Time / Direction

1/20/81 / 1:45 PM / DOWNWARD

Comments: CLOSE-UP OF DISTURBED

SURFACE - NOTE WAXY

APPEARANCE AND LAYERED

CHARACTER

(10)



Photographer / Witness

/MRE SEKELYHIDI

Date / Time / Direction

1/20/81 / 1:45 PM / NORTH

Comments: REMOVAL OF ONE OF

THE WASTE PILES - NOTE

SULFUR CRYSTALS AND WAXY

COVER OF PILE.

(11)



Photographer / Witness

/MRE SEKELYHIDI

Date / Time / Direction

1/20/81 / 2:30 PM / DOWNWARD

Comments: SURFACE IN VICINITY
OF REMOVED PILES - NOTE
LAYERED MATERIALS BELOW
SURFACE



Photographer / Witness

/MRE SEKELYHIDI

Date / Time / Direction

1/20/81 / 2:30 PM / DOWNWARD

Comments: CLOSE-UP OF MATERIALS
AT THE BASE OF THE PILES



Photographer / Witness

/MRE SEKELYHIDI

Date / Time / Direction

1/20/81 / 3:45 PM / NORTH

Comments: SITE OF PILES AT
CLOSE OF CLEAN-UP



Photographer / Witness

MRE SEKELYHIDI

Date / Time / Direction

1/20/81/3:30^{PM}/NORTH

(15)

Comments: CLEAN-UP OF WASTE
PILES NEARING COMPLETION

Photographer / Witness

MRE SEKELYHIDI

Date / Time / Direction

1/20/81/3:00PM/WEST

(16)

Comments: NORTHWEST CORNER OF
S.P. LOT (SEATRAN CO. CARGO
BOXES IN BACKGROUND)



Photographer / Witness

Date / Time / Direction

~~(17)~~

Comments:



Photographer / Witness

IMRE SEKELYHIDI

Date / Time / Direction

1/20/81 / 3:00 PM / DOWNWARD

(18)

Comments: MATERIALS ON SURFACE
AT LOCATION SHOWN ON PHOTO #16
NOTE SULPHUR GRANULES ON
SURFACE.



Photographer / Witness

IMRE SEKELYHIDI

Date / Time / Direction

1/20/81 / 3:00 PM / DOWNWARD

(19)

Comments: CLOSE-UP AT ABOVE
LOCATION - NOTE MATERIALS
4"-6" BELOW SURFACE



Photographer / Witness

IMRE SEKELYHIDI

Date / Time / Direction

1/20/81 / 3:00 PM / DOWNWARD

(20)

Comments: CLOSE-UP OF EXTRACTED
MATERIAL



Photographer / Witness

IMRE SEKELYHIDI

Date / Time / Direction

1/20/81 / 4:00 PM / WEST

(21)

Comments: CLOSURE OF FENCE POLING

PICK-UP LOADED WITH 7 DRUMS
(55 GALS) OF REMOVED WASTE
MATERIAL

Photographer / Witness

IMRE SEKELYHIDI

Date / Time / Direction

1/20/81 / 3:20 PM / S.WEST

(22)

Comments: WELL AT CHURCH
NEAR SW CORNER OF OLD
OLIN PLANT SITE.



Photographer / Witness

Date / Time / Direction

Comments: